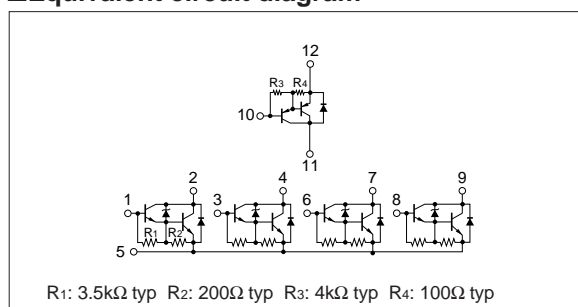


### Absolute maximum ratings

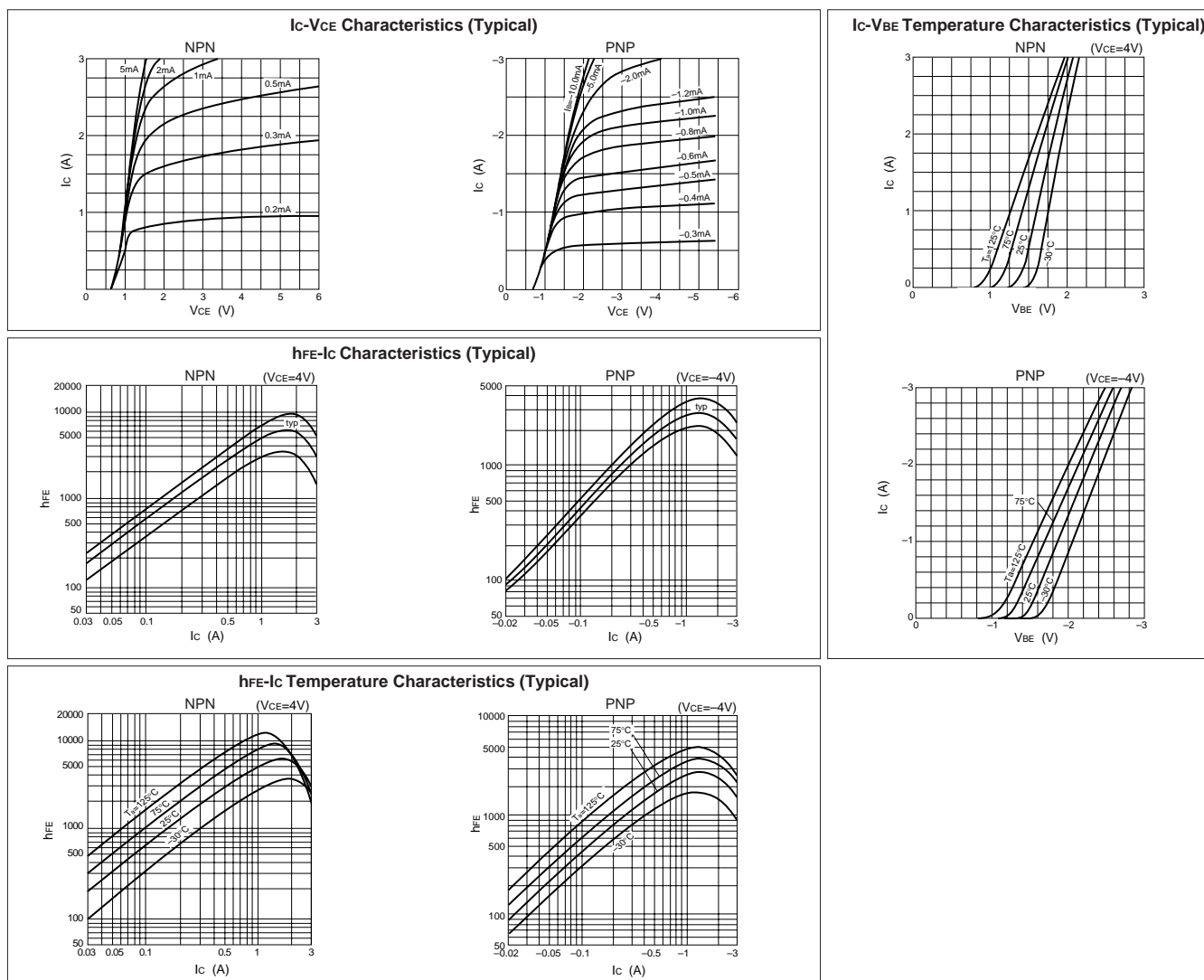
( $T_a=25^\circ\text{C}$ )

Symbol	Ratings		Unit
	NPN	PNP	
V <sub>CBO</sub>	100±15	−60	V
V <sub>CEO</sub>	100±15	−60	V
V <sub>EBO</sub>	6	−6	V
I <sub>CP</sub>	1.5	−3	A
I <sub>B</sub>	0.5	−0.5	A
P <sub>T</sub>	4 (T <sub>a</sub> =25°C)		W
	20 (T <sub>c</sub> =25°C)		
T <sub>j</sub>	150		°C
T <sub>stg</sub>	−40 to +150		°C

### Equivalent circuit diagram



### Characteristic curves



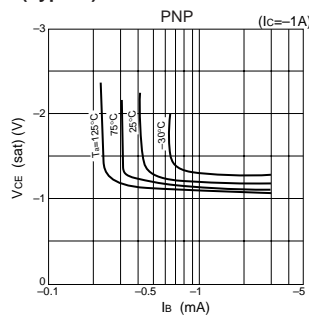
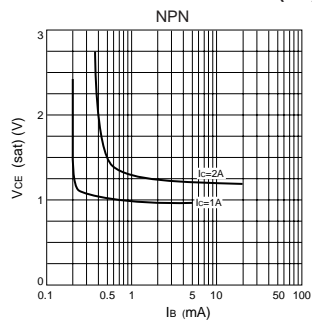
## Electrical characteristics

( $T_a=25^\circ\text{C}$ )

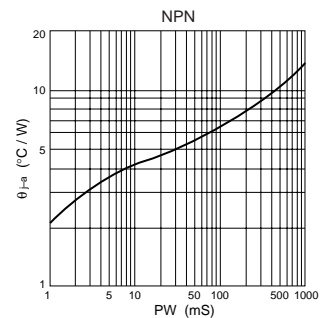
Symbol	NPN					PNP				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$I_{CBO}$			10	$\mu\text{A}$	$V_{CB}=85\text{V}$			-10	$\mu\text{A}$	$V_{CB}=-60\text{V}$
$I_{EBO}$			5	$\text{mA}$	$V_{EB}=6\text{V}$			-10	$\text{mA}$	$V_{EB}=-6\text{V}$
$V_{CEO}$	85	100	115	V	$I_C=10\text{mA}$	-60			V	$I_C=-10\text{mA}$
$h_{FE}$	2000				$V_{CE}=4\text{V}, I_C=1\text{A}$	2000				$V_{CE}=-4\text{V}, I_C=-1\text{A}$
$V_{CE(sat)}$			1.5	V	$I_C=1\text{A}, I_B=2\text{mA}$			-1.5	V	$I_C=-1\text{A}, I_B=-2\text{mA}$

## Characteristic curves

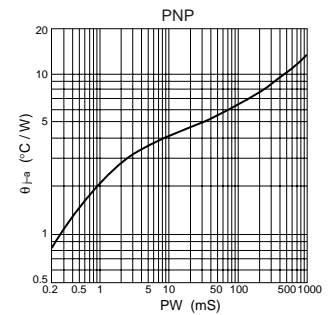
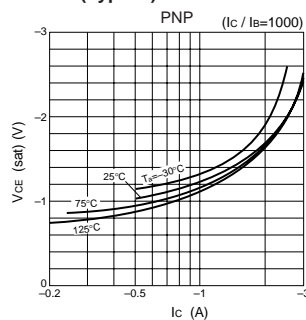
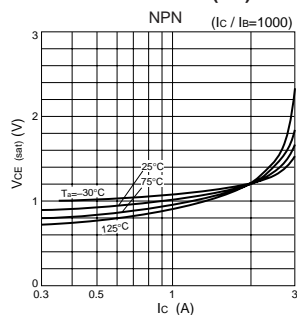
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



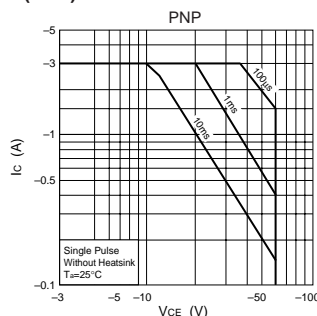
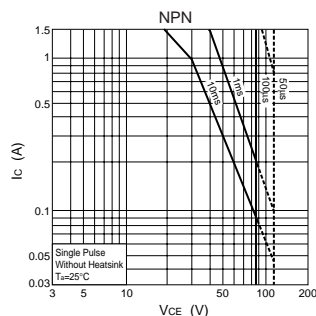
$\theta_{JA}$ -PW Characteristics



$V_{CE(sat)}$ - $I_C$  Temperature Characteristics (Typical)



Safe Operating Area (SOA)



$P_T$ - $T_a$  Characteristics

